WHAT IS CLAIMED IS:

1. An integrated circuit, comprising:

a substrate having channels for addition of circuit material, the channels having sides extending to a plane defining a top surface of the substrate and a bottom beneath the plane;

a die mounted to the substrate;

a plurality of electrical terminals mounted to the substrate for connecting the die to external circuits; and

circuit material deposited within the channels for forming an electrical connection between the die and the electrical terminals.

2. The integrated circuit of Claim 1, wherein the substrate further has bottom channels having sides extending to a bottom plane defining a bottom surface of the substrate and a top beneath the bottom plane, and wherein the circuit material is further deposited within the bottom channels.

3. The integrated circuit of claim 2, wherein the substrate is embossed to form the channels.

4. The integrated circuit of Claim 2, wherein the circuit material and the substrate have voids for addition of circuit material through the substrate for connection of circuit material within the channels to circuit material within the bottom channels, and further comprising plated circuit material within the voids.

5. The integrated circuit of claim 1, wherein the substrate is embossed to form the channels.

6. The integrated circuit of Claim 1, further comprising at least one other die mounted on the substrate, and wherein the circuit material further forms electrical connections between the die and the at least one other die.

7. The integrated circuit of Claim 1, wherein the embossed substrate and the circuit material form the electrical terminals for contacting flip-chip mounting on the substrate.

8. The integrated circuit of Claim 1, further comprising a solderable protectant layer deposited over the circuit material for preventing oxidation of the circuit material.

9. The integrated circuit of Claim 1, wherein the substrate comprises a conductive backing layer on an opposite side of the embossing and a resin layer, and wherein the resin layer is embossed to form voids in the resin layer whereby the conductive backing layer can be contacted from the embossed side of the substrate.

10. The integrated circuit of Claim 1, wherein the substrate is embossed on a top side and a bottom side to form channels for addition of circuit material on the top side and the bottom side, and wherein the circuit material is deposited on the top side and the bottom side.

11. The integrated circuit of Claim 1, wherein the substrate comprises:

an embossed bottom insulating layer;

a perforated metal layer bonded to a top side of the bottom insulating layer; and

an embossed top insulating layer.

12. An integrated circuit, comprising:

a substrate;

a die mounted to the substrate;

a plurality of electrical terminals mounted to the substrate for connecting the die to external circuits; and

means for electrically connecting the die to the plurality of electrical terminals.

13. A method for manufacturing an integrated circuit substrate, comprising:

embossing a top side of the substrate with a tool having features defining a reverse image of channels for addition of circuit material; and

adding circuit material within channels formed by the embossing.

14. An integrated circuit manufactured by the method of Claim 13.

15. The method of Claim 13, further comprising:

embossing a bottom side of the substrate with a second tool having features defining a reverse image of bottom channels for addition of bottom circuit material; and

second adding circuit material within the bottom channels formed by the second embossing.

16. The method of Claim 15, wherein the substrate comprises a top insulating layer and bottom insulating layer bonded on opposite sides of a metal layer, wherein the method further comprises perforating the metal layer prior to bonding the insulating layers to the metal layer.

17. The method of Claim 16, wherein the perforating is performed by etching the metal layer.

18. The method of Claim 15, wherein the second tool has features for creating voids through the substrate from the channels to the bottom channels, and wherein the method further comprises depositing circuit material within the voids for electrically connecting circuit material within the channels to circuit material within the bottom channels.

19. The method of Claim 13, further comprising mounting a flip-chip die having electrical contacts on a bottom side by inserting the electrical contacts within the channels formed by the embossing.

20. The method of Claim 13, wherein the embossing forms a void through the substrate for insertion of a mounting post, and further comprising:

mounting a die having a retaining post on a top side of the substrate, by inserting the retaining post through the void; and

soldering the retaining post to circuit material on a bottom the of the substrate.

21. The method of Claim 13, wherein the adding is performed by electroplating copper on the top side of the substrate and wherein the method further comprises:

depositing a resist material on top of areas of the circuit material; and

etching the electroplated copper to form an electrical circuit within the areas.

22. The method of Claim 13, wherein the adding is performed by electroplating copper on the top side of the substrate, and wherein the method further comprises:

plating areas of the electroplated copper with a metal resistant to the etching within areas of the circuit material; and

etching the electroplated copper, wherein the electroplated copper is retained under the areas.

23. A tool for embossing a substrate material for mounting an integrated circuit, whereby channels for addition of circuit material may be formed on a top side of the substrate material, wherein the tool comprises:

a thin metal tool foil stamped with features defining a reverse image of the channels; and

a machine for supporting and moving the thin metal tool foil such that the substrate material can be embossed by the thin metal tool foil to form the channels.

24. The tool of Claim 23, wherein the thin metal tool foil is further stamped with features for perforating the substrate material to form voids through the substrate material.

25. The tool of Claim 23, whereby bottom channels may be formed on a bottom side of the substrate, wherefor the tool further comprises a second metal tool foil stamped with features defining a reverse image of the bottom channels, and wherein the machine is adapted to further support and move the second metal tool foil for embossing the substrate material to form the bottom channels.